

What is claimed is:

1. A semiconductor device characterized in having a capacitor

comprising:

a first electrode on an organic resin film;

an oxide film at least on a portion of a surface of the first electrode; and

a second electrode covering at least a portion of said oxide film.

2. A semiconductor device characterized in having a capacitor comprising:

an inorganic film over an organic resin film;

a first electrode on said inorganic film;

an oxide film at least on a portion of a surface of the first electrode; and

a second electrode covering at least a portion of said oxide film.

3. A semiconductor device according to claim 2, wherein said inorganic film is formed by sputtering.

4. A semiconductor device according to claim 1 wherein said first electrode comprises a material capable of anodic oxidation.

5. A semiconductor device according to claim 2 wherein said first electrode comprises a material capable of anodic oxidation.

6. A semiconductor device according to claim 1 wherein a wrap around

amount X of the oxide film at an edge of said first electrode is  $0.5\mu\text{m}$  or less.

7. A semiconductor device according to claim 2 wherein a wrap around amount X of the oxide film at an edge of said first electrode is  $0.5\mu\text{m}$  or less.

8. A semiconductor device according to claim 1 wherein a wrap around amount X of the oxide film at an edge of said first electrode is  $0.1\mu\text{m}$  or less.

9. A semiconductor device according to claim 2 wherein a wrap around amount X of the oxide film at an edge of said first electrode is  $0.1\mu\text{m}$  or less.

10. A semiconductor device comprising at least a pixel matrix circuit over a substrate, wherein a storage capacitor of said pixel matrix circuit comprises:

a shielding film provided over an organic resin film;  
an oxide film of said shielding film; and  
a pixel electrode disposed on the oxide film.

11. A semiconductor device comprising at least a pixel matrix circuit and a driver circuit over a substrate characterized in:

that at least a portion or all of a lightly doped drain region of a n-channel TFT comprising said driver circuit is disposed so as to overlap with a gate electrode of said n-channel TFT;

that a lightly doped region of a pixel TFT that comprises

the pixel matrix circuit is disposed so as not to overlap with a gate electrode of the pixel TFT;

that a storage capacitor in the pixel matrix circuit comprises a shielding film disposed over an organic resin film, an oxide film of said shielding film and a pixel electrode; and

that impurity element imparting n type is included in a lightly doped drain region of n-channel TFT that comprises the driver circuit in a higher concentration than that in a lightly doped drain region of the pixel TFT.

12. A semiconductor device according to claim 10 wherein said shielding film comprises a material capable of anodic oxidation.

13. A semiconductor device according to claim 11 wherein said shielding film comprises a material capable of anodic oxidation.

14. A semiconductor device according to claim 10 wherein a wrap around amount X of the oxide film at an edge of said first electrode is  $0.5\mu\text{m}$  or less.

15. A semiconductor device according to claim 11 wherein a wrap around amount X of the oxide film at an edge of said first electrode is  $0.5\mu\text{m}$  or less.

16. A semiconductor device according to claim 10 wherein said pixel matrix circuit is planarized by a color filter.

17. A semiconductor device according to claim 11 wherein said pixel matrix circuit is planarized by a color filter.

18. A semiconductor device according to claim 10 wherein said pixel electrode comprises a transparent conductive film.

19. A semiconductor device according to claim 11 wherein said pixel electrode comprises a transparent conductive film.

20. A semiconductor device according to claim 10 wherein said pixel electrode comprises a reflective material.

21. A semiconductor device according to claim 11 wherein said pixel electrode comprises a reflective material.

22. A semiconductor device according to claim 1 wherein said semiconductor device is selected from a group consisting of active matrix liquid crystal display, active matrix EL display and active matrix EC display.

23. A semiconductor device according to claim 2 wherein said semiconductor device is selected from a group consisting of active matrix liquid crystal display, active matrix EL display and active matrix EC display.

24. A semiconductor device according to claim 2 wherein said semiconductor device is selected from a group consisting of active matrix liquid crystal display, active matrix EL display and active matrix EC display.

25. A semiconductor device according to claim 10 wherein said semiconductor device is selected from a group consisting of active matrix liquid crystal display, active matrix EL display and active

~~matrix EC display.~~

26. A semiconductor device according to claim 11 wherein said semiconductor device is selected from a group consisting of active matrix liquid crystal display, active matrix EL display and active matrix EC display.

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27. An electrooptical device which loads the semiconductor of claim 1 as a display medium.

28. An electrooptical device which loads the semiconductor of claim 2 as a display medium.

29. An electrooptical device which loads the semiconductor of claim 10 as a display medium.

30. An electrooptical device which loads the semiconductor of claim 11 as a display medium.

31. An electrooptical device according to claim 27 wherein said electrooptical device is one selected from a group consisting of video camera, digital camera, projector, goggle type display, car navigation system, personal computer and portable information terminal.

32. An electrooptical device according to claim 28 wherein said electrooptical device is one selected from a group consisting of video camera, digital camera, projector, goggle type display, car navigation system, personal computer and portable information terminal.

33. An electrooptical device according to claim 29 wherein said electrooptical device is one selected from a group consisting of video camera, digital camera, projector, goggle type display, car navigation system, personal computer and portable information terminal.

34. An electrooptical device according to claim 30 wherein said electrooptical device is one selected from a group consisting of video camera, digital camera, projector, goggle type display, car navigation system, personal computer and portable information terminal.

35. A method for manufacturing a semiconductor device comprising the steps of:

forming a resin film over a thin film transistor;

forming a first electrode on said resin film;

forming an oxide film of the first electrode;

forming a second electrode covering at least a portion of or all of the oxide film,

wherein a capacitor is formed by the first electrode, the oxide film of the first electrode and the second electrode.

36. A method for manufacturing a semiconductor device comprising the steps of:

forming a resin film over a thin film transistor;

forming an inorganic film on said resin film;

forming a first electrode on said organic film;  
forming an oxide film on the first electrode; and  
forming a second electrode covering at least a portion of  
or all of the oxide film,

wherein a capacitor is formed by the first electrode, the  
oxide film of the first electrode and the second electrode.

37. A method according to claim 36 wherein said step of forming  
an inorganic film on said resin film is performed by sputtering.

38. A method according to claim 35 wherein said step of forming  
an oxide film uses anodic oxidation, and characterized by applied  
voltage/electric supply time is 11V/min or greater.

39. A method according to claim 36 wherein said step of forming  
an oxide film uses anodic oxidation, and characterized by applied  
voltage/electric supply time is 11V/min or greater.

40. A method for manufacturing a semiconductor device comprising  
at least a pixel matrix circuit and a driver circuit over a substrate,  
comprising the steps of:

forming a channel forming region, a source region, a drain  
region and a lightly doped drain region sandwiched between the  
channel forming region and the source region or the drain region,  
in an active layer of a n-channel TFT that comprises the driver  
circuit,

forming a channel forming region, a source region and a

drain region in an active layer of a p-channel TFT that comprises the driver circuit;

forming a channel forming a source region, a drain region and a lightly doped drain region sandwiched between the channel forming region and the source region or the drain region, in an active layer of a pixel TFT that comprises the pixel matrix circuit;

forming an interlayer insulating film comprising organic resin film over n-channel TFT and p-channel TFT that comprises the driver circuit and over the pixel TFT that comprises the pixel matrix circuit;

forming a shielding film over the interlayer insulating film;

forming an oxide film of the shielding film on a surface of the shielding film; and

forming a pixel electrode which contacts the oxide film of the shielding film so as to overlap the shielding film,

characterized by:

that at least a portion of, or all of the lightly doped drain region of the n-channel TFT that comprises the driver circuit is disposed so as to overlap a gate electrode of the n-channel TFT;

that the lightly doped drain region of the pixel TFT is disposed so as not to overlap a gate electrode of the pixel TFT; and



that an impurity element imparting n-type is doped in the lightly doped drain region of the n-channel TFT that comprises the driver circuit at a higher concentration than the lightly doped drain region of the pixel TFT.

41. A method according to claim 40, wherein said step of forming an oxide film of the shielding film is an anodic oxidation process characterized by applied voltage/electric supply time at 11V/min or greater.

42. A semiconductor device comprising at least a pixel matrix circuit over a substrate, wherein said pixel matrix circuit is planarized by a color filter.

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